PINNACLE

HEAVY DUTY STAIR LIFT SYSTEM

Installation and Service Manual

Harmar

WARNING! STRICT ADHERENCE TO THESE INSTALLATION INSTRUCTIONS is required and will promote the safety of those installing this product, as well as those who will ultimately use the lift for its intended purpose. Any deviation from these instructions will void the LIMITED WARRANTY that accompanies the product. Additionally, any party installing the product who deviates from the INSTALLATION INSTRUCTIONS shall be taken to agree to INDEMNIFY, SAVE AND HOLD HARMLESS the manufacturer from any and all loss, liability or damage, including attorneys fees, that might arise out of or in connection with such deviation.

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Read and understand this manual prior to attempting stair lift installations. Please refer to the Owner's Manual for Limited Warranty information and operating instructions. The Owner's Manual must be given to the owner of the lift before it is put into service.

Any alterations to the equipment without written authorization by the manufacturer may void the warranty. Harmar lifts are designed to install with as little assembly by the installer as possible. If you have questions, concerns or comments, please contact Harmar's Technical Service Department at 1-866-378-6848 or tech@Harmar.com.

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Important! *It is imperative that this manual be read and understood prior to attempting installation of the stair lift. Please observe all cautions and warnings in this manual, as well as on labels on the equipment.*

I. PRELIMINARY CHECKS

TOOLS REQUIRED

The following is a suggested list of basic tools to have on hand during installation.

- ☐ Cordless drill
- ☐ Allen wrench (5/64", 5/32", 3/16", 5/16")
- ☐ Phillips screwdriver (#3)
- ☐ Nut driver (3/8" and 5/16")
- ☐ 6-10" driver extension
- ☐ T30 Torx bit (included)
- ☐ Level
- ☐ Hack saw or chop saw
- ☐ SAE socket set
- ☐ SAE wrenches
- ☐ Tape measure

INCLUDED PARTS

Before beginning installation, please inspect and check the box contents. Report any damage to your dealer.

Chassis Box:

- Chassis
- Call/send parts
- 2 Call/send hand controls
- Battery charger
- Manual hand crank
- Installation Manual
- Owner's Manual

Rail Bracket Box:

- Rail brackets (2, 3, 4, or 6 per set)
- Wood screws (#14 X 2" (4 per rail bracket)

Chair Box:

- Chair
- Back Rest
- Seat Belt

Footrest Box:

- Footrest complete with:
  - Swivel Slide Rails
  - Swivel Pin bracket
- Rear Seat Support

Rail Box:

- Bottom rail pre-installed with:
  - Bottom end plate
  - Charge strip wire harness
- Bottom limit cam
- Joint pins and joint brackets (two-piece rail only)
- Plastic gear rack
- Top rail pre-installed with:
  - Charge strip wire harness
- Rail accessories (plastic bag):
  - Top end plate
  - Compression bolts (3 sizes)
- Self-cutting screws (1/4"-20 X 1")
- Torx T30 driver bit
- Rail parts (plastic bag):
  - Extra plastic racks (2 or 3)
  - Top limit cam

II. INSTALLATION PROCEDURES

A. DETERMINE OVERALL RAIL LENGTH (Only if track did not come pre-cut to length)

Step 1: Determine any obstructions that will affect the position and length of the rail. These may include walls, doors, hallway orientation, etc.

Step 2: Measure the overall length of the stairs from the nose at the top landing of the stairs to the floor at the bottom (nose to floor measurement, e.g., 128", see image below).

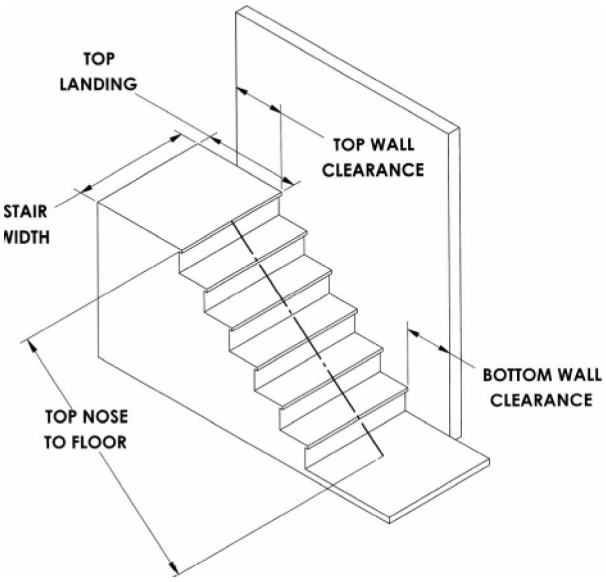
Step 3: For a normal stairway with adequate space for a landing, add 13" to the nose to floor measurement. This will provide enough rail length to allow the stair lift to be adjusted so that the floor-to-seat height will be the same at both the top and bottom (e.g., 141").

Step 4: If the top landing has restrictions (i.e., a wall or doorway), use the chart below to determine the length of extension that should be used.

Step 5: To cut the rail, use a standard 12" chop saw, with a blade designed to cut aluminum. **Do not cut rail inside the house (aluminum chips are very hard to remove from carpets).**

TIP! **DO NOT cut the end of the rail that contains the joint holes. Remove the charger strips and wire harness before cutting.**

Extension			
7"	9"	11"	13"
3.9"	5"	6.1"	7.2"
Horizontal intrusion on top landing			

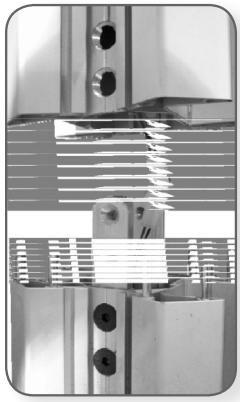


B. RAIL INSTALLATION

Step 1: Open the rail box and remove the contents.

Step 2: Position the bottom rail (the rail with end plate attached) directly on the stairs with the end plate towards the bottom of the stairs and the plastic rack facing up. Place an object that measures between 3/4" and 1" between end plate and the floor.

TIP! **Use the chair box or another heavy object, like a toolbox, at the bottom to prevent the rail from sliding down the stairs.**



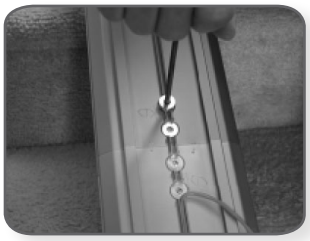
Step 3: Position the two ends of the track close together. Locate and connect the plug on the ends of the two charger harnesses inside the two track pieces.

Step 4: With the plastic rack facing up, slide the top rail into the bottom rail and guide them together using the pre-installed pins. Gently tap the top rail if necessary to get them close together. Be cautious not to pinch the charger harness.

Step 5: Install two (2) joint fasteners and firmly tighten with 3/16" Allen wrench. Then slide rack pieces down to cover joint.

Step 6: Turn over joined rails and install the remaining two (2) joint fasteners and firmly tighten with 3/16" Allen wrench. Then slide rack pieces down to cover joint.

Step 7: Install rail brackets by loosening the screws and snapping each bracket edge into the slot, or slide the brackets on from the top of the rail.

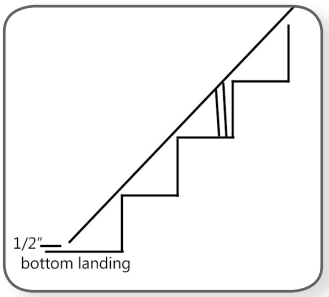


TIP!

The brackets are tightened from one side only. It is important that the bracket be installed with the screw side facing the stringer (wall) so when the rail is turned over to its correct orientation the screws will be accessible.

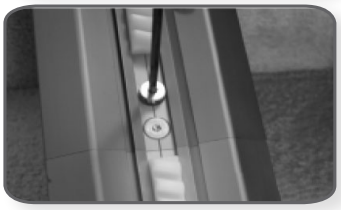
Step 8:

A. For double rails, the first rail bracket should be tightened in place so when turned over the back of the bracket touches the rear of the first step from the bottom landing. The second and third brackets should be placed and tightened on the steps on each side of the rail joint, again so the back of the bracket touches the rear of the step. The fourth and final bracket should be placed on the last step before the top landing, again tightening it so it touches the front of the rear of the last step.



B. Tighten the first rail bracket in place so when turned over the back of the bracket touches the rear of the first step from the bottom landing. Place the other rail on the last step before the top landing, again tightening it so it touches the rear of the last step.

Step 9: Turn the rail right side up (plastic side facing up).



Step 10: Measure any obstruction from the wall (this may include handrails, molding, light switches, etc.) and adjust the edge of the brackets an equal distance from the wall. The edge of the track needs to be 7" from the wall or any obstruction.

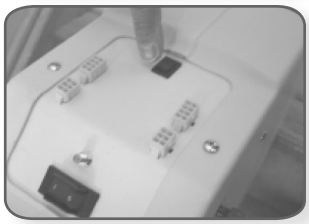
Step 11: The underside of the rail must be at least 2" above the stair tread nose to provide clearance for the footrest. T**o achieve this 2" clearance move the rail and bracket forward.** Once the clearance is 2" tighten all bracket nuts to hold the brackets in position. To maintain the 2" clearance, and to hold the rail in place, secure the bottom bracket to the first step from the floor with 2-2" wood screws, using a 3/8 nut driver on a 6-10" extension of a cordless drill.

C. CHASSIS INSTALLATION

Step 1: Remove plastic bag from chassis box. Lift the chassis with the manual override hole (on bottom) facing the downhill side of the stairs and gently slide the chassis onto the rail until it makes contact with the plastic rack. **DO NOT LET THE CHASSIS FREE FALL DOWN THE RAIL.**

CAUTION! *Be careful not to trap fingers between the rail and the chassis.*

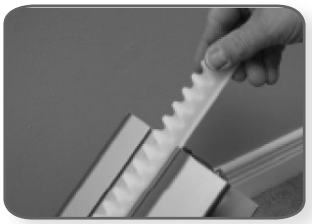
Step 2: Remove the safety tie and turn the red "ON/OFF" switch to the "ON" position (I).



Step 3: Use the installation switch (the black switch on the top of the chassis) to move the chassis at least two (2) feet down the rail, pushing gently on the chassis to ensure the chassis does not pull any rack to the top.

CAUTION! *Do not ride on the chassis or lift until the install is complete.*

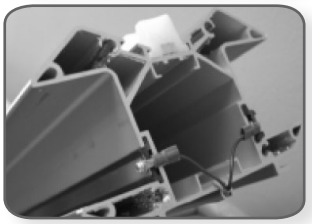
D. FINAL RAIL INSTALLATION



Step 1: Install the remaining plastic rack pieces in the upper rail.

Step 2: Use a hacksaw or chop saw to cut the last plastic rack piece flush with the rail end. Place something on the floor to catch debris or mark and cut the rack outside.

The exposed, cut end of the plastic rack should be facing the top end of the rail (the factory-cut side should butt against the lower rack).



Step 3: Slide the top limit cam into one of the cam slots (it doesn't matter which side), and tighten the pre-inserted Allen screw with a 5/64" Allen wrench. This will be used to set the final upper limits for the stair lift.

Step 4: Remove charging strip from the rail box. Connect charging strip connector to the charger wire that runs through the center of the rail from the lower charging strips.

Insert the two (2) charger strips into the keyed slots at the top of the rail (while standing on the top landing looking down). The charging strip with the red wire should be inserted into the left slot with the metal strip facing out. The charging strip with the black wire should be inserted into the right slot with the metal strip pointing out.

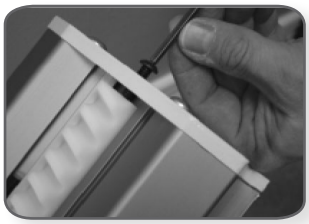
Bend the red and black wire tabs in toward the center of the rack.

Insert excess cable into the rail, leaving the pigtail with the Molex connector.

Step 5: Install the end plate to the top of the rack with the four (4) self-cutting Torx screws using the supplied T30 Torx bit.

Too much torque applied to these screws may result in damage. Take your time and apply grease to threads.

Step 6: Install one of the rack pre-compression screws in the threaded hole in the top plate of the rail, and tighten it as firmly as possible by hand with a 5/32" Allen wrench.



There are three (3) kinds of pre-compression screws:

1. 1/2" for tracks under 6'
2. 3/4" for tracks between 6' and 12'
3. 1" for tracks over 12'

Step 7: Plug in the battery charger at either end of the rail, depending on the closest or most convenient location of a wall power supply. Minimize wire length and intrusion.

E. FOOTREST & SEAT INSTALLATION

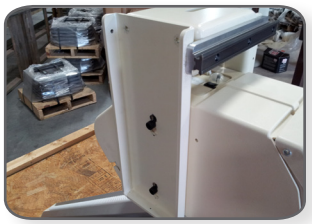
Step 1: Remove footrest from box and use the installation switch to drive the chassis downward to a position about 6" clear of the floor. This will provide a safe area to install and adjust the footrest. Do not drive the unit into bottom stop.

Step 2: Turn the red "ON/OFF" switch located on the top of the chassis to the "OFF" position (0).

Step 3: Position the footrest onto the two (2) seat-leveling bolts on the outside of the chassis by aligning the large opening at the slot ends of the footrest.

Step 4: Ensure the footrest is fully engaged.

Step 5: Position the rear seat support onto the two (2) seat-leveling bolts on the backside of the chassis by aligning the large opening at the slot ends of the footrest.

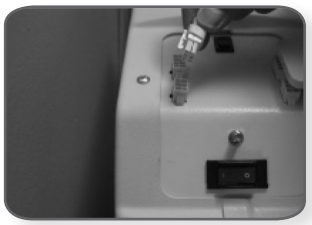


Secure the rear seat support to the footrest/seat support using the two (2) hex-head bolts and washers.

Secure the rear of the slider rails to the rear seat support using the two (2) socket bolts.

Ensure that the seat support is level and tighten the two (2) front and two (2) rear leveling bolts.

Step 6: Connect the footrest cable to the 6-pin connector on the chassis.

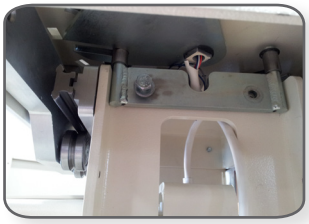


When the 6-pin footrest and the 8-pin chair cables are both connected to the chassis, the black installation switch on the chassis is disabled and will not function.

Step 7: Align the seat rollers with the slider rails and slide the seat half way back.

Step 8: Swivel seat approximately 45 degrees to one side.

Step 9: Attach the swivel pin bracket with the flat side towards the footrest support using the two (2) hex head bolts and washers. Ensure that one of the swivel pins is engaged into the slot in the swivel cam.



Step 10: Connect the seat cable to the 8-pin connector on the chassis.

Step 11: If the lift is equipped with the optional key lock, ensure that the key switch on the armrest control is in the locked position (with the key in the vertical position)

Step 12: Turn the red "ON/OFF" switch located on the top of the chassis to the "ON" (I) position. You should hear a single beep and the LED indicator light on the armrest control should cycle through a test sequence, showing red, yellow and green respectively. If any of the system controls or safety sensors are engaged the LED indicator light will turn to yellow.

Step 13: If the LED indicator light is not green, check the safety senors:

1. Seat swivel sensor (seat should be in the locked position)
2. Footrest lower sensor (check by pushing in on the safety pan on the footrest)
3. Upper foot pan safety sensor (check by pushing on the safety pan on the footrest).
4. Front foot pan safety sensor (check by pushing on the safety pan on the footrest).
5. Uphill safety sensor (ensure nothing is blocking upward passage)
6. Downhill safety sensor (ensure nothing is blocking downward passage)

If the LED indicator light is still not green after testing sensors, turn the unit off and recheck all wire plugs. Turn the unit on again and recheck the LED indicator light cycle. When the LED indicator light remains green the lift is ready to operate.

III. REMOTE CALL/SEND CONTROL OPERATION

A. REMOTE CONTROL OPERATION

The key switch on the arm of the chair must be in the "ON" position to use the remote call/send control.

STEP 1: Press and hold the appropriate directional button on the front of the hand control. The LED indicator light will turn green when a signal is being sent.

The chair lift will operate with or without a rider. All safety sensors on the chair lift are designed to continue to operate in their normal mode. The LED light indicator on the armrest will also display the appropriate color.

STEP 2: If the chair lift fails to respond, this may indicate the batteries are discharged and need to be replaced. Remove the back cover of the control and replace with commonly available AAA batteries, ensuring that the polarity is correct.

B. REMOTE CONTROL RE-PROGRAMMING

All call/send controls are factory programmed. Re-programming is not normally necessary during installation. In the event that the remote call/send control needs to be re-programmed, it is essential to program BOTH controls in one programming cycle. Do so by completing the following:

1. Start with the red "ON/OFF" switch in the "OFF" position (0).
2. Disconnect the 6-pin footrest and 8-pin chair wire harnesses from the chassis.
3. Press and hold the install switch (located on the top of the chassis) in either direction.
4. Turn the red "ON/OFF" switch to the "ON" position (I), and then release the install switch.
5. The lift will begin to beep rapidly (this means the first remote control is ready to program).
6. Press and release the "UP" or "DOWN" button of the first remote control (the first remote control is now programmed).
7. Press and release the "UP" or "DOWN" button of the second remote control (the second remote control is now programmed).
8. Upon completion, two beeps will indicate that both remote controls have been programmed.
9. Turn the "ON/OFF" switch to the "OFF" position (0).
10. Connect the 6-pin footrest and 8-pin chair wire harnesses to the chassis and then turn the red "ON/OFF" switch to the "ON" position (I).
11. Test each remote control in both the up and down directions.

IV. COMPLETION PROCEDURES

A. TEST ARMREST CONTROL SWITCH

STEP 1: Ensure that the unit travels correctly by operating the armrest control switch while standing in front of the unit.

STEP 2: Depress the switch in the upstairs direction to move up. The lift will beep, wait three (3) seconds and begin to smoothly accelerate upwards. The lift will continue to move upwards as long as the switch is depressed.

STEP 3: Release the switch and the lift will come to an immediate stop.

STEP 4: Depress the switch in the downstairs direction to move down. The lift will beep, wait three (3) seconds and begin to smoothly accelerate downwards.

STEP 5: Release the switch and the lift will come to an immediate stop.

STEP 6: Run the chair all the way up and down the rail to ensure that the top of the seat back has at least a 1/2" clearance from the wall and any obstructions.

CAUTION! *Do not ride on the chassis or lift until the install is complete.*

B. TIGHTEN BRACKETS

STEP 1: Install and fully tighten the rail bracket mounting screws (four (4) screws per bracket). For hardwood stairs, a pilot hole should be drilled first. For plywood or particle board stairs care must be taken to prevent stripping.

C. SET UPPER AND LOWER TRAVEL LIMITS

STEP 1: Test the lower travel limit by operating the lift downward, keeping the switch depressed. The unit should begin to decelerate about 3" from its final resting position and stop clear of the floor.

STEP 2: The final stopped position can be adjusted to accommodate the height of the user by repositioning the limit cam located in a slot in the rail.

STEP 3: Use a 5/64" Allen wrench to loosen the set screw in the limit cam. Adjust the limit cam up or down and retighten the set screws. Repeat the above steps until the lift stops in the desired position.

STEP 4: Repeat the above steps to set the upper limits. For safety, the footrest should be set at least level with the upper landing.

STEP 5: The optimum position is met when the seat height above the floor is the same at the top and bottom of the stairs.

D. TEST SAFETY STOP SWITCHES

STEP 1: Safety stop switches are located in both the upward and downward ends of the chassis providing protection from obstructions on the rail.

STEP 2: Safety stop switches are located in the footrest bottom pan providing protection from obstructions and trapping hazards on the stairs.

STEP 3: A safety stop switch is part of the swivel seat mechanism and prevents the lift from operating when the swivel is in use.

STEP 4: Test all the safety stop switches by driving the lift down and touching the downward end of the chassis, the lower edge of the footrest, and the underside of the footrest in both its folded and unfolded positions.

STEP 5: In each of the above cases the unit should come to an immediate halt. The LED indicator light on the armrest control should turn to orange and the unit should beep intermittently.

STEP 6: When the control switch is released, the unit should NOT be able to be driven in the direction that the lift initially engaged the obstacle. Test this condition.

STEP 7: Test to ensure that the lift can only be driven away from the obstruction. The LED indicator light will turn to green and stop beeping indicating a safe operating condition.

STEP 8: Repeat the above tests while driving the lift in opposite direction.

STEP 9: If any safety condition does not function properly, carefully review all installation instructions, reset the "ON / OFF" switch and check that the LED indicator light is green. Repeat the above tests.

STEP 10: If any safety stop switch fails to immediately stop the lift and/or a red LED indicator light appears, remove the key to prevent further use of the lift and immediately call the manufacturer for assistance in diagnosing and repairing the problem. **DO NOT USE THE LIFT.**

E. ADDITIONAL SYSTEM CHECKS

STEP 1: After the successful testing of all safety switches, sit on the lift and operate to the top of the stairs. Keeping the control switch depressed continuously, the lift should gently decelerate and then stop at the top of the track.

STEP 2: As a final adjustment, sit on the lift and do two (2) complete up trips and stop with the chair at the bottom. Then tighten the compression screw in the top end plate, then run the chair to the top and again tighten the compression screw. Run the chair to the middle and do a final tightening of the compression screw.

STEP 3: Drive the lift to the bottom, keeping the control switch depressed all the time, and check that the lift gently decelerates and stops so the footrest pan is clear of the floor. If necessary adjust the limit cams with a 5/64" Allen wrench.

STEP 4: Move the lift about three (3) feet from either the top or bottom of the rail. After 30 seconds the armrest LED indicator light will show orange and beep indicating that the lift is not positioned on a charge point. The beep will stop after 30 seconds, but the armrest LED indicator light will continue to flash orange.

STEP 5: Test the seat swivel at the top by using the levers and swiveling the seat towards the landing and stop the seat at 35 and 85 degrees. The seat swivel levers will release into a locked position at each of these angles. The lift will not operate in any of these positions if the control switch is depressed, and the LED indicator light will turn orange. Return the seat to its normal position and the LED indicator light will turn green and the lift will now operate normally.

STEP 6: Drive to the top or bottom and check the battery charging light. If the light is orange or red, the batteries are being charged.

THE LIFT IS NOW READY TO FOR USE.